

AMENDMENTS TO THE CLAIMS

What is claimed is

1. (Currently Amended) A process for preparing isocyanurate-containing polyisocyanates by at least partly trimerizing (cyclo)aliphatic diisocyanates, which comprises carrying out the reaction in the presence of at least one trimerization catalyst selected from the group consisting essentially of the ammonium salts, substituted by four hydrocarbon radicals, of α -hydroxy-carboxylates, wherein said reaction is carried out in a gas or gas mixture which is inert under the reaction conditions.

2. (Previously Presented) A process for preparing isocyanurate-containing polyisocyanates by at least partly trimerizing (cyclo)aliphatic diisocyanates, which comprises using, as the trimerization catalyst, at least one compound of the formula (I)



where

R^1 , R^2 , R^3 , R^4 , R^5 and R^6 may each independently be the same or different and are each a straight-chain or branched C_1 - to C_{20} -alkyl group, an optionally substituted C_5 - to C_{12} -cycloalkyl group, an optionally substituted C_7 - to C_{10} -aralkyl group, or an optionally substituted C_6 - C_{12} -aryl group, or

two or more of the R^1 to R^4 radicals together form a 4-, 5- or 6-membered alkylene chain or, together with a nitrogen atom, form a 5- or 6-membered ring which optionally

contains an additional nitrogen or oxygen atom as a bridge member, or together form a multimembered, polycyclic system, which optionally contains one or more additional nitrogen atoms, oxygen atoms or oxygen and nitrogen atoms as bridge members, and

R^5 and R^6 may additionally be hydrogen, or C_1 - C_{20} -alkyl or C_6 - to C_{12} -aryl, each optionally interrupted by one or more oxygen and/or sulfur atoms and/or one or more substituted or unsubstituted imino groups, or substituted by functional groups, aryl, alkyl, aryloxy, alkyloxy, halogen, heteroatoms and/or heterocycles.

3. (Previously Presented) The process according to claim 2, wherein the R^1 to R^4 radicals are each independently selected from the group consisting essentially of methyl, ethyl, propyl, isopropyl, n-butyl, tert-butyl, phenyl and benzyl.

4. (Previously Presented) The process according to claim 2, wherein the R^5 and R^6 radicals are each independently selected from the group consisting of hydrogen, methyl, ethyl, n-propyl, n-butyl, phenyl, 2-carboxyethyl and 2-hydroxyethyl.

5. (Previously Presented) The process according to claim 1, wherein the ammonium ion is selected from the group consisting essentially of tetraoctylammonium, tetramethylammonium, tetraethylammonium, tetra-n-butylammonium, trimethylbenzylammonium, triethylbenzylammonium, tri-n-butylbenzylammonium, trimethylethylammonium, tri-n-butylethylammonium, triethylmethylammonium, tri-n-butylmethylammonium, diisopropyldiethylammonium, diisopropylethylmethylammonium, diisopropylethylbenzylammonium, N,N-dimethylpiperidinium, N,N-dimethylmorpholinium, N,N-di-methylpiperazinium or N-methyldiazabicyclo[2.2.2]octane.

6. (Previously Presented) The process according to claim 1, wherein the α -hydroxycarboxylate ion is selected from the group consisting essentially of the anions of glycolic acid (hydroxyacetic acid), lactic acid, citric acid, 2-methylactic acid (α -hydroxyisobutyric acid), 2-hydroxy-2-methylbutyric acid, 2-hydroxy-2-ethylbutyric acid, 2-hydroxy-3-methylbutyric acid, 2-hydroxycaproic acid, malic acid, tartaric acid, glucuronic acid, gluconic acid, citramalic acid, saccharic acid, ribonic acid, benzilic acid, quinic acid, mandelic acid, hexahydromandelic acid, 2-hydroxycaproic acid and 3-phenyllactic acid.

7. (Previously Presented) The process according to Claim 1, wherein the trimerization catalyst is deactivated after the desired degree of trimerization has been attained.

8. (Original) The process according to claim 7, wherein the trimerization catalyst is deactivated with dibutyl phosphate or di(2-ethylhexyl) phosphate.

9. (Previously Presented) The process according to Claim 1, wherein the diisocyanates have a total chlorine content of less than 100 ppm by weight.

10. (Previously Presented) The process according to Claim 1, wherein the diisocyanate is 1-isocyanato-3-isocyanato-methyl-3,5,5-trimethylcyclohexane.

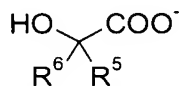
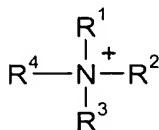
11. (Canceled)

12. (Previously Presented) A polyurethane coating comprising a polyisocyanates prepared by the process of Claim 1.

13. (Previously Presented) A polyisocyanate component in one- and two-component polyurethane systems for high-grade, weather-resistant polyurethane coatings and high-solids coatings comprising a polyisocyanates prepared by the process of Claim 1.

14. (Currently Amended) A process for preparing isocyanurate-containing polyisocyanates by at least partly trimerizing a halogen-free hexamethylene diisocyanate, which comprises carrying out the reaction in the presence of at least one trimerization catalyst selected from the group consisting essentially of the ammonium salts, substituted by four hydrocarbon radicals, of α -hydroxy-carboxylates, wherein said reaction is carried out in a gas or gas mixture which is inert under the reaction conditions.

15. (Previously Presented) A process for preparing isocyanurate-containing polyisocyanates by at least partly trimerizing a halogen-free hexamethylene diisocyanate, which comprises using, as the trimerization catalyst, at least one compound of the formula (I)



where

R^1 , R^2 , R^3 , R^4 , R^5 and R^6 may each independently be the same or different and are each a straight-chain or branched C_1 - to C_{20} -alkyl group, an optionally substituted C_5 - to C_{12} -cycloalkyl group, an optionally substituted C_7 - to C_{10} -aralkyl group, or an optionally substituted C_6 - C_{12} -aryl group, or

two or more of the R^1 to R^4 radicals together form a 4-, 5- or 6-membered alkylene chain or, together with a nitrogen atom, form a 5- or 6-membered ring which optionally contains an additional nitrogen or oxygen atom as a bridge member, or together form a multimembered, polycyclic system, which optionally contains one or more additional nitrogen atoms, oxygen atoms or oxygen and nitrogen atoms as bridge members, and

R^5 and R^6 may additionally be hydrogen, or C_1 - C_{20} -alkyl or C_6 - to C_{12} -aryl, each optionally interrupted by one or more oxygen and/or sulfur atoms and/or one or more substituted or unsubstituted imino groups, or substituted by functional groups, aryl, alkyl, aryloxy, alkyloxy, halogen, heteroatoms and/or heterocycles.

16. (Previously Presented) The process according to claim 15, wherein the R^1 to R^4 radicals are each independently selected from the group consisting essentially of methyl, ethyl, propyl, isopropyl, n-butyl, tert-butyl, phenyl and benzyl.

17. (Previously Presented) The process according to claim 15, wherein the R^5 and R^6 radicals are each independently selected from the group consisting of hydrogen, methyl, ethyl, n-propyl, n-butyl, phenyl, 2-carboxyethyl and 2-hydroxyethyl.

18. (Previously Presented) The process according to claim 14, wherein the ammonium ion is selected from the group consisting essentially of tetraoctylammonium,

tetramethylammonium, tetraethylammonium, tetra-n-butylammonium, trimethylbenzylammonium, triethylbenzylammonium, tri-n-butylbenzylammonium, trimethylethylammonium, tri-n-butylethylammonium, triethylmethylammonium, tri-n-butylmethylammonium, diisopropyldiethylammonium, diisopropylethylmethylammonium, diisopropylethylbenzylammonium, N,N-dimethylpiperidinium, N,N-dimethylmorpholinium, N,N-di-methylpiperazinium or N-methyldiazabicyclo[2.2.2]octane.

19. (Previously Presented) The process according to claim 14, wherein the α -hydroxycarboxylate ion is selected from the group consisting essentially of the anions of glycolic acid (hydroxyacetic acid), lactic acid, citric acid, 2-methylactic acid (α -hydroxyisobutyric acid), 2-hydroxy-2-methylbutyric acid, 2-hydroxy-2-ethylbutyric acid, 2-hydroxy-3-methylbutyric acid, 2-hydroxycaproic acid, malic acid, tartaric acid, glucuronic acid, gluconic acid, citramalic acid, saccharic acid, ribonic acid, benzilic acid, quinic acid, mandelic acid, hexahydromandelic acid, 2-hydroxycaproic acid and 3-phenyllactic acid.

20. (Previously Presented) The process according to Claim 14, wherein the trimerization catalyst is deactivated after the desired degree of trimerization has been attained.

21. (Previously Presented) The process according to claim 14, wherein the trimerization catalyst is deactivated with dibutyl phosphate or di(2-ethylhexyl) phosphate.

22. (Previously Presented) The process according to Claim 14, wherein the halogen-free hexamethylene diisocyanate has a total chlorine content of less than 100 ppm by weight.

23. (Previously Presented) The process according to Claim 14, wherein the halogen-free hexamethylene diisocyanate is hexamethylene 1,6-diisocyanate.

24. (Previously Presented) A polyurethane coating comprising a polyisocyanates prepared by the process of Claim 14.

25. (Previously Presented) A polyisocyanate component in one- and two-component polyurethane systems for high-grade, weather-resistant polyurethane coatings and high-solids coatings comprising a polyisocyanates prepared by the process of Claim 14.

26. (New) The process according to Claim 1, wherein the said gas or gas mixture which is inert under the reaction conditions has a total oxygen content of below 2% by volume.

27. (New) The process according to Claim 1, wherein the said gas or gas mixture which is inert under the reaction conditions has a total oxygen content of below 1% by volume.

28. (New) The process according to Claim 1, wherein the said gas or gas mixture which is inert under the reaction conditions has a total oxygen content of below 0.5% by volume.

29. (New) The process according to Claim 1, wherein the said gas or gas mixture which is inert under the reaction conditions is selected from the group consisting of nitrogen, argon, helium, and a nitrogen-noble gas mixture.

30. (New) The process according to Claim 1, wherein the said gas or gas mixture which is inert under the reaction conditions is nitrogen.

31. (New) The process according to Claim 14, wherein the said gas or gas mixture which is inert under the reaction conditions has a total oxygen content of below 2% by volume.

32. (New) The process according to Claim 14, wherein the said gas or gas mixture which is inert under the reaction conditions has a total oxygen content of below 1% by volume.

33. (New) The process according to Claim 14, wherein the said gas or gas mixture which is inert under the reaction conditions has a total oxygen content of below 0.5% by volume.

34. (New) The process according to Claim 14, wherein the said gas or gas mixture which is inert under the reaction conditions is selected from the group consisting of nitrogen, argon, helium, and a nitrogen-noble gas mixture.

35. (New) The process according to Claim 14, wherein the said gas or gas mixture which is inert under the reaction conditions is nitrogen.